

APPLICATION NOTE

FECA-AN-128A

USB to RS-485 Converter Usage

Inverter type	FRENIC-MEGA Series
Software version	All versions
Required options	None
Related documentation	FRENIC Loader 3.2 Instruction
	Manual INR-SI47-1549b-E
	FRENIC-MEGA Instruction Manual
	INR-SI47-1457a-E
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Revision	A

Introduction

This application note provides the recommended USB to RS-485 converter as it applies to the connection to Fuji Electrics **FRENIC Loader 3.1EN Software and FRENIC Loader 3.2EN**.

Converter Data

The recommended USB to RS-485 converter-Black Box Network Services USB to RS-485 2 wire converter Model Number IC832A http://www.blackbox.com

This model was tested for connectivity and functionality. It is capable of communicating using Fuji Electric FRENIC Loader 3.1EN Software, Loader 3.2EN on PC grunning Windows XP, and WIN 7 (32 and 64 bit).

Setup

Function Codes

Set the drive function codes as shown in Table 1. Table 1: Inverter Function Codes

Function Code	Setting	Description
H30	3	Freq and Run command through RS-485
Y01	1	Station address (inverter address)
Y04	3	19,200 Baud rate
Y05	0	8 bits Data Length, Data Bits
Y06	0	None, Parity check
Y07	0	2 stop bits
Y10	1	FRENIC Loader protocol



Wiring

Strip one end of your Ethernet cable and wire like Figure 1A. Isolate the remaining wires.

- Blue will go to port A(-).
- White/Blue will go to port B(+).
- The shield will go to the port GND.
- Isolate the remaining wires.

Figure 1A: Adapter wiring



At this point plug one end of your straight Ethernet cable into the inverterc RJ-45 port on the front of the drive (Figure 1B). Figure 1B



For Fuji Electric

Plug the USB cable into an available USB port on the computer (Figure 1C). Figure 1C



*Note: only use a straight Ethernet cable and wire one end like above in Figure 1A. Do not use any other wiring as damage to the inverter may result.

Software Settings

Port settings as shown in Figure 2

- Bits per second: 19200
- Data bits: 8
- Parity: None
- Stop bits: 2
- Flow control: None

Figure 2: Computer COM port settings

General Port Setting	Driver Details		
	Bits per second	19200	•
	Data bits	8	
	Party	None	•
	Stop bits	2	
	Row control	None	*
	Ad	vanced	Restore Defaults



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Loader Settings as shown in Figure 3

- Click on Communication settings.
- Choose the target: RS-485 Data in inverter.
- Set the Port and Baud rate.
- Click Connection List.
- Identify your inverter.
- Click Browse.
- The status should change from Unknown to Connected.

Figure 3: Loader settings

12 FRENUC Loaders-2 - Quick Access Menu			
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Quick Access Menu			
FRENIC Loader is a utility tool that allows you to set up, run, control, and monitor Click the icon corresponding to the function you want to perform. Doing so allows	is the FRENIC series of inverters via a PC.		
Function code): To set up, edit, compare, transfer, or initialize function codes.	[Test run]: To view the status of the inverter and to control/run the inverter through Loader.		
[Operation monitor; To open I/O monitor, system monitor, alarm monitor, and analog metering.	Communication Setting Targel RS485Data in Inverter 💌		
Nulti-monitor(): To monitor the running status of the previously registered inverters on the system.	C USB C RS-485 Pot CDM6	OK	
Communication setting): To configure communications environment between the inverter and the PC.	Baud rate 13200 [bps] Flow control RTS	Device connection fait No. Statum Equipment name RSHIS of a Vol. 1 1	
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At this point you can click OK and begin to use FRENIC Loader to operate, monitor, and troubleshoot your drive.

For further information: See FRENIC Loader 3.2 Instruction Manual INR-SI47-1549b-E, and FRENIC-MEGA Instruction Manual (INR-SI47-1457a-E).